ments to which it has been a party. A list of 27 of those agreements appears on page 967 of the printed hearings of the committee.

In that connection I also draw the Senator's attention to pages 132 to 135 of the hearings. At that point he will find a list of agreements, some of which are treaties and some not so formal, which the Russians have violated. That material was inserted in the record during the hearings.

With respect to these documents I should like to make the following comment: While some of the agreements listed on page 967 are of real substance and importance, a number of them are more or less minor in nature. So one must discriminate to some extent in judging the nature of those agreements.

Further, with regard to this list of broken agreements, the Senator will note the significance of the fact that since Stalin's death in 1953 there have been relatively few breaches of agreements. The most important one, from our point of view, relates to the Berlin

wall and access to Berlin.

To illustrate how nebulous and inconsequential some of these agreements are, though cited as being significant treaty violations, two of the last four are agreements that the U.S.S.R. had with Yugoslavia with regard to credits and grants. It would be somewhat similar to our agreements in connection with foreign aid. We always consider such agreements rather tentative in nature. We decide that we will do so much for a certain country, usually with reciprocal obligations. Two of those cases are ones in which the U.S.S.R. withdrew or, rather, postponed for 5 years a grant to Yugoslavia of \$285 million. That was a bilateral agreement. I do not believe it was in the nature of a treaty or a solemn undertaking. It was an agreement between those two countries. I only mention that point so that we do not swallow the declaration that 50 out of 52 agreements have been broken, but we should consider the nature of the agreement.

Insofar as concerns solemn treaty undertakings of a dignity and a substantive importance comparable to the one now before the Senate, outside the Berlin problem and since the death of Stalin, the number of treaties violated has been relatively few. Many more of equal dignity have been adhered to without violation. For example, I cite the Antarctic Treaty and the Austrian Treaty. So far as I know, no violation of these treaties has taken place.

These things are not quite as black

and white as they appear.

Further with regard to the present treaty, the very least one can say with regard to what distinguishes the treaties that have been observed from those violated-which applies in all cases, I think—in that the treaties that have been observed are those which were in the interest of the Soviet Union. It was for that reason that the committee was concerned in its hearings, and set forth in its report the considerations which, it appears, have led the Soviet Union to enter into this agreement. Insofar as those considerations can be relied on to

be continuing factors in Soviet policy, they provide some guarantee against future violations of this treaty.

First, it is apparent that the 1961-62 tests have led Soviet scientists to believe that in many critical areas of nuclear weaponry they have achieved a rough technical parity with the United States.

Of course, it is speculative as to how they feel, but it is very probable that they feel a certain assurance as to their capacity, which from their point of view

is their deterrent.

Second, the Cuban missile crisis is likely to remain in the minds of the present Soviet leadership as a sobering glimpse at the implications of nuclear

That point was developed at considerable length, and I believe quite persuasively, by the Secretary of State in

his testimony at the hearing.

Third, is the Sino-Soviet schism. The depth of that schism as it is progressively revealed, indicates, I believe, the extent of the commitment which the Russians have been willing to make for the sake of agreement in this case. It seems hardly likely that such consequences as the Soviet Union has already incurred from the mere signing of this document would be incurred for the sake of a document which they do not intend to abide

An example of that break was set forth in this morning's newspaper. The bitterness of the exchange between the two countries indicates that there has been a great change in that relationship, and it also has had a sobering effect upon the Russians.

Fourth, the possibility of diverting resources away from nuclear weapons development and into the consumer goods area in which they are solely needed has probably motivated the Soviet leaders. Once the diversion is made it seems possible that this will have a cumulative effect in creating a Soviet Union with interests in other areas than weaponry.

For several years we have heard about the difficulties of Russia in respect to agriculture. It is quite reasonable to believe that these difficulties may have contributed to the Soviets desire to decelerate the rate in the field of nuclear weapons in order to enable them to devote more of their resources to things such as agriculture and the production of other consumer goods.

Finally, there is the interest which the Soviet Union must share with this country in preventing the proliferation of nuclear weapons. This interest can only

increase with time.

All these things are questions which the committee believes—and I believe the treaty effects in a way which is in the self-interest of the Soivets. We rely upon such self-interest for the observance by the Soviets of the treaty. It is in their interest. It seems to me that it is quite possible that great countries, with the kind of power that we both possess, could have a common interest in certain fields. These fields may be different. We do not have the same incentives, for example, insofar as consumer goods are concerned, although I think we have a great need in the field

of education, urban renewal, and other things to divert some of the exorbitant cost of armaments to meeting those needs. They are not the same interests as those of the Russians, but they are in that general area.

Insofar as these considerations lead the Soviet Union to enter upon the treaty, they will to a greater or lesser extent, I believe, bind them to the treaty in the

future.

In addition to self-interest, some general statements can be made as to the likelihood of Soviet treaty violation on the basis of an analysis of the treaties adhered to and violated in that Government in the past.

For one thing, the greater the number of parties adhering to the treaty, the greater seems the assurance that the Soviet Union will not blatantly abrogate the understanding reached. To date in excess of 80 parties have adhered to

the treaty.

While it would not be prudent to predict any change of Soviet policy in this regard based on the personalities of the Soviet leadership, it is noteworthy that recent treaty violations have sought the color of legal justification in place of the cynical statements of Marxist dogma which accompanied the about-faces of the Stalin period. Perhaps the need for legal arguments to support their position will eventually lead the Soviets to conform their conduct to international law.

However, the most persuasive argument for not permitting past violations to dictate our present relations with the Soviet Union on this matter is that a violation in this case will not pass unnoticed or put the United States at a disadvantage. The treaty is self-policing. The United States can safely rely on its own ability to detect Soviet violations and to maintain a military and scientific posture that will assure that no gains will accrue to the Soviet Union from violation of the treaty.

That latter statement is based to a considerable degree upon testimony taken in executive session, which is available to the Senator if he wishes to look at it, with regard to our country's capacity for detection.

Mr. HARTKE. I think I shall do that. I should do it, in all sincerity, for the benefit of my own constituency and for

my own satisfaction.

Secondly, many have alleged that the treaty is advantageous only to Russia. The Senator has indicated that there were certain benefits from the treaty to Russia; otherwise, the Russians would not have signed it. It has been said that the Russian goal is to dominate the world, and that the Russians would not agree to a pact which would not aid them in obtaining this objective. I am sure my constituents would be interested in the chairman's view of this question.

Mr. FULBRIGHT. If that statement has any validity, it could be said about any agreement. To put it another way, no agreement could ever be signed, because obviously the parties who signed it each believe, at the least, that it is to

their advantage.

We think the treaty is to our advantage, also. In this particular case, the limited test ban treaty is an American proposal, going back to 1959, as has already been stated, and as the Senator knows.

Its purpose is to decelerate the arms race which, if allowed to proceed unchecked and unlimited, would represent a hazard for both the United States and for the Soviet Union. So this hazard

faces both of us equally.

I have already given certain reasons why we believe the Soviets can be relied upon to some extent—perhaps to a great extent—to abide by the treaty, because it is in their self-interest. It is also in our self-interest. I think our interests are mutual in many respects with regard to this particular treaty. Many of the reasons why the Soviets will abide by the treaty, which I have mentioned, are also applicable to and relevant to this ques-

in our interest.

I emphasize that this is an American proposal by the previous administration, supported by this administration.

tion. It is in their interest. It is also

It is inconceivable to me that both administrations, together with the vast majority of the present military leaders of this country and a clear majority of the scientific brains not only of the present administration but also of the past one, could all be mistaken in their assessment as to where the advantage lies.

Mr. HARTKE. Many people also believe that the Russians will test secretly. We have heard this in the debate repeatedly on the Senate floor. Many people believe that, because there will be no on-site inspections, we shall be unable to detect such tests.

Mr. FULBRIGHT. The on-site inspections, as the Senator knows, which occupied so much of the discussions in Geneva, related to underground testing, which is not to be covered by this treaty. In the atmosphere, in outer space and under water, it is the belief of our best experts—the ones to whom I have already referred—that our capacity for detection is adequate. Not only was this the testimony in executive session, but it was also stated in open session, without going into details.

The director of the CIA; the Joint Chiefs of Staff; Dr. Brown, the chief scientific adviser; and the Secretary of Defense all stated in general terms that they believe our detection capacity is adequate to detect any significant violations of this treaty in the environments covered by it.

I think everyone would recognize that there could be tests small enough in size that they might go undetected, but they would be quite small and would not be significant with regard to the balance of power between the countries.

Mr. HARTKE. It is also said that even if the Russians do not test in their own country there is nothing to prevent them from providing a nonsignatory nation, such as Red China, with nuclear weapons which would then be tested under Russian supervision.

Mr. FULBRIGHT. That would be a clear violation of the treaty. If it were done, the treaty would be abrogated and

would end. The language of the treaty prohibits such acts.

The signatories undertake to discourage or to prevent testing by other nations, by allies or by any other nations.

That would be a clear violation of the treaty. Our experts have no doubt that we would know that they were doing it, and therefore it would amount to an abrogation of the treaty. We could of course withdraw from the treaty. Section 4 has a very lenient withdrawal clause.

(At this point Mr. CLARK took the chair as Presiding Officer.)

Mr. HARTKE. Another oftenrepeated objection is that entering into a test ban agreement now would prevent the United States from conducting the atmospheric tests necessary to develop very large yield weapons as a counter to the Soviet superweapons, which are now supposedly 100 times more powerful than the U.S. Polaris and Minuteman missiles, on which our future defense depends. It has also been contended that it would freeze our development of an antimissile defense system; and that, therefore, we must continue testing to maintain and to increase our nuclear deterrent power, for if we do not test we shall lose.

This is also apparently the view which has been expressed on the floor of the Senate by the Preparedness Subcommittee.

I wonder if the chairman of the committee would care to comment upon this point.

Mr. FULBRIGHT. There was testimony to that effect, but the great weight of the testimony was contrary to that view. I should say that the testimony indicated the premises of the question are false.

The committee was informed by expert witnesses that the United States, without further testing, could develop a 50- to 60-megaton weapon for B-52 delivery. But these same witnesses assigned very little importance to such a weapon. For example, the Chairman of the Joint Chiefs of Staff, General Taylor, replying to a question on this point, said:

I attach very little importance to this, frankly, Senator. The whole very high yield weapons field is one which has very little, if any, military significance.

I interpolate that as long ago as 1954 this question was discussed by the leading military and civilian experts, and they decided against the development of high-yield weapons. The concept of a 50- or 60-megaton weapon, as opposed to a 5- or 10-megaton weapon, rather loses its meaning, because the 5- or 10-megaton weapon suitably deployed is so powerful as to be capable of destroying any city in the world. That is why the experts did not feel there was any point in going into the extremely high-yield weapons.

General Taylor's comment was supported by the combined statement of the Joint Chiefs. As the Secretary of Defense and these other witnesses pointed out, the United States could have developed such weapons but has concentrated instead on the more useful, flexi-

ble, and deliverable low and intermediate-yield weapons.

With regard to ABM development, the committee took exhaustive testimony, some of which is quoted on pages 12-15 of the report, on this question. The burden of expert opinion is that development of an ABM system sufficiently effective to justify deployment would be exceedingly difficult, if only because offensive capability in the nuclear field is likely to remain far ahead of defensive capability.

Dr. York, one of the leading scientists in the past administration, who headed the Lawrence Radiation Laboratory at Livermore, Calif., said:

The race between offense and defense is a race between a tortoise and a hare and if only the hare does not go to sleep, the tortoise has no chance.

To interpret that, he was saying that the offense can always be kept ahead of the antiballistic missile, or defense, if we are at all alert. Of course we must be alert, whether there is a treaty or not.

But whether development of an effective ABM system is a feasible prospect or not will not depend on testing its warhead, according to Secretary Mc-Namara, the Joints Chiefs of Staff, Dr. Brown, and most of the other expert witnesses.

As the Committee report observed:

The United States has a number of nuclear warheads of suitable design and performance for antiballistic missile systems under development. Still others of larger yield can be developed underground. However, the development of a high performance ABM system is a composite of staggering technical problems, largely unrelated to the warhead, a relatively simple and manageable part of the whole system.

Secretary McNamara said:

An ABM system consists of several types of radars, the interceptor missile and the very complex computing equipment at a ground station to control the radars and to direct the interceptor missile. The various radars serve to detect incoming objects in nearby space, to track the incoming warhead, and to track and control the interceptor missile, which is targeted on the incoming warhead by the computing equipment.

That testimony demonstrates that the real problem, the difficult problem, in the ABM system is not the warheads—we have many—but the system that directs and computes, which the treaty does not affect. We can pursue the experimental projects in this field and in experimenting and developing computers and all that goes with them, without the inhibitions of the treaty.

Mr. HARTKE. Mr. President, we all know that the Soviets broke the 1958 moratorium and in so doing gained superiority over us in nuclear weaponry. If they should break this treaty, it would take us several months to resume testing, and therefore they would gain an additional advantage.

What has the chairman of the committee to say in reply to that question?

Mr. FULBRIGHT. It is true that the Russians obviously learned a great deal from those tests. I have already said that this is one of the considerations we